

their having been made by successive steps, afforded by this succession of corresponding prints at regular intervals, is the strongest we possess. They are in pairs, and the pairs extend in two parallel linear series with a groove midway between the two series. The outer impression of each pair is the largest, and it is a little behind the inner one. Both are short and broad, with feeble indications of divisions at their fore part. They succeed each other at intervals much shorter than that between the right and left pair.

“The median groove is well defined and slopes down more steeply at its sides than towards the bottom, at some parts of the track. I conclude from these characters that the animal which left the track was a quadruped, with the hind-feet larger and wider apart than the fore-feet; with both hind and fore-feet very short, or impeded by some other part of the animal's structure from making any but short steps; that the fore and hind limbs were near each other, but that the limbs of the right and those of the left side were wide apart: consequently, that the animal had a short but broad trunk, supported on limbs either short or capable only of short steps; and that its feet were rounded and stumpy, without long claws.

“As to the median impression, that may be due either to a thick heavy tail, or to the under surface of the trunk, dragged along the ground. The shape of the body and the nature of the limbs, indicated by the above-described characters of the steps, accord best with those of the land or freshwater tortoises, and the median groove might have been scooped out by the hard surface of a prominent plastron.

“The disproportion in the size of the fore and hind-feet is such as we find in some existing Terrapenes, e. g., the *Emys geographica*.”

### III. ZOOLOGY.

1. *On the Classification of the Cancroidea*; by JAMES D. DANA.—The Cancroidea (or Crustacea Cyclometopa), like the Maiioidea, are characterized by having, (1) the branchiæ 9 in number, 7 of which lie so as to form the exterior of the branchial pyramid; (2) the efferent passage from the branchial cavity passing over the lateral portions of the palate; (3) the male genital orifices situated in the base of the posterior legs and covered by the abdomen; (3) the male abdomen not narrower at base than the corresponding part of the sternum; (4) the buccal area subquadrate, and the 4th joint of the outer maxillipeds articulated with the 3d by its inner angle. The Telphusidæ have these characters, and may be considered true Cancroidea, though approximating to the Grapsoidea in the large vacant space in the branchial cavity, and having some peculiarities in the branchiæ fitting them for freshwater life.

The Corystes group also partake of the Cancroid character; yet they diverge from it, in the large outer antennæ more or less hairy, and both in this respect and in form, they approach the Hippa group, and thus have a much lower position in the series than the Cancroidea. They have no true relation in the character of the buccal area and efferent canal to the Leucosia group.

The genera *Acanthocyclus* and *Corystoides* (of Lucas) have the genital orifices, sternum and abdomen, and outer maxillipeds of the Cancroidea and *Corystoidea*; but the branchiæ (in *Acanthocyclus* at least)

are less numerous, as in the Grapsoidea. The outer antennæ are obsolete, and the inner in *Corystoides* have no fossettes. They are therefore genera of low grade, at the foot of the Cancroidea, and approach closely in rank to the *Corystoidea*.

Our grand divisions of the Cancroidea are hence,

1. CANCRINEA, or CANCROIDEA TYPICA.
2. TELPHUSINEA or CANCROIDEA GRAPSIDICA.
3. CYCLINEA, or CANCROIDEA CORYSTIDICA.

The character of the efferent passage or canal, separating the Leucosoid Crustacea or Oxystomata, is the most striking among the Brachyura. While, in all other species, this passage passes over the outer portions of the palate or prælabial area, in these, it passes over the medial portions, and terminates at the middle of the front margin of the buccal area which is therefore elongated, giving the area a triangulate outline: the character of this passage and not the form of the area is the important character of the Leucosoidea. The inner branch of the 1st pair of maxillipeds is modified to correspond, as it covers (more or less perfectly) in this and all the Brachyura the efferent passage.

The efferent passage, which affords the striking character alluded to, has its different degrees of perfection among the Cancroidea. In a large number of genera, the waters wash over the palate without any confining ridge: but in others there is a distinct ridge, running longitudinally, near the middle of either lateral half of the palate, and terminating at the front margin of the buccal area. This ridge is prominent in *Eriphia*, *Ruppellia*, *Ozius*, *Pilumnoides*, *Melia* (as the writer has observed) and some other genera, and is also distinct in *Pilumnus*. It is wanting in *Cancer*, *Xantho*, and the allied, or if a trace is to be observed, (as in *Menippe Rumphii* and some other species,) it does not reach to the front margin of the buccal area. We have in this character, therefore, an important distinction separating the non-natatory Cancrinea into two groups, the Cancridæ and the Eriphidæ. Mere breadth of carapax alone is of very little value as a characteristic: *Xantho* passes by its allied genera into species but little broader than long, and so with *Chlorodius*.

Among the swimming species, a large part, as detected by De Haan, have a small lobe attached to the inner margin of the inner branch of the 1st maxillipeds: while others, as *Platyonychus* and the allied have no such lobe and approximate somewhat to the *Corystoidea*, although not properly, as we think, of that group.

The species of *Lupa* and *Thalamita* have a ridge upon the palate either side bounding the efferent passage; but there is one exception in *Lupa cribraria*, which species consequently must pertain to a distinct group from the other *Lupas*.

In these brief remarks on the classification of the Cancroidea, we leave much to be gathered from the following synopsis. But a few words should be offered on the genera of De Haan and Edwards; partly because the two are to some extent in conflict, and partly because several of those of De Haan are of unessential importance. The publication of the first fascicle of De Haan's Crustacea of the Fauna Japonica in 1833, preceded Edwards by a year, but the descriptions of his genera were so concise and imperfect that it was not possible for any one to have recognized them all.

*Ruppellia* of Edwards, and *Eudora* of De Haan, have the same typical species. But De Haan neglected to observe in the type the important peculiarity of the orbit, (its being wholly closed within so as to exclude the base of the outer antennæ, a peculiarity found in no *Brachyura* except a few of the *Eriphidæ*,) and hence his genus includes, according to his own use of it, some Xanthoid species. The two names are by no means synonyms; and adopting the group as laid down by Edwards, we are forced to adopt his generic name. Modifications to some extent may be made in accepted genera, and this we have attempted in some instances below, but not the complete perversion that would happen by giving De Haan's name to Edwards's genus.

De Haan has not recognized the distinction between the pointed and spoon-shape figures as a generic characteristic, and this makes some difficulty in substituting his names for those of Edwards, where the groups are otherwise similar. This characteristic was first employed by Leach and subsequently by Edwards. The genera of the two kinds often graduate into one another: but the parallel relation between the series is best shown by retaining them apart in separate subfamilies. Between our Xanthinæ and Chlorodinæ there is nearly a perfect parallelism. De Haan's species of the genus Xantho are in part Chlorodii.

De Haan has multiplied much the genera of swimming Crabs, by subdividing *Lupa* and *Thalamita*. This has partly arisen from an unwarranted reliance for the characteristic on the form of the 3d joint of the outer maxillipeds, as well as on that of the inner branch of the 1st maxillipeds.

In a former paper it was observed that the 3d joint of the outer maxillipeds may undergo great variations in proportion in the same genus. This is well illustrated among the *Portunidæ*. *Amphitrite* of De Haan (a subdivision of *Lupa*) is described as having this joint *short and oblique*. But in species of true *Amphitrite*, it varies from this form to a form unusually oblong. Again he makes *Neptunus* and *Achelous* differ from *Amphitrite* in having this joint more oblong, the reverse of which is actually the fact among many of the species examined by the writer. So *Thalamita* is characterized by having this same joint short, when in fact it is sometimes longer than broad. The form in one species (*T. integra*, *D.*) scarcely differs in relative length or obliquity from that of *Lupa dicantha*. Again *Oceanus* (*Thalamita crucifera* of Edwards) is said to have the inner branch of the 1st maxillipeds three-lobed, and *Thalamita*, as having the inner margin unidentate. The latter has the inner lobe as in *Oceanus*, and this makes the one tooth; the margin outside of this lobe or tooth, is straight at top in some species (*T. crassimana* and *crenata*), but excavate in others, becoming even deep and angulate in *Th. integra*, a species very near *admetus* in form and general characters. There is thus a gradual transition to the form in *Oceanus*. Such variations in this margin are therefore unimportant, as many other cases illustrate.

Our grand divisions are named after the larger to which they approximate. This plan might be carried farther with much profit. Thus among the five families of *Cancrinea*—the *Cancridæ*, are the *Cancrinea Typica*; the *Eriphidæ*, are the *Cancrinea Grapsidica*, for in the ridges of the palate as well as form they approximate to *Grapsus*;

the Portunidæ, are the *Cancrinea Typica Natatoria*; the Platyonychidæ, the *Cancrinea Corystidica Natatoria*; the Podophthalmidæ, the *Cancrinea Grapsidica Natatoria*. Again, among the subfamilies of Cancridæ, the Cancrinæ, are the *Cancridæ Corystidicæ*; the Xanthinæ and Chlorodinæ, the *Cancridæ Typicæ*.

The following is a synopsis of the known genera of Cancroidea.—

## LEGIO I. CANCRINEA, VEL CANCROIDEA TYPICA.

### FAM. I. CANCRIDÆ.

Pedes postici gressorii. Ramus maxillipedis 1mi internus simplex. Palatum (vel area prælabiata) colliculo ad marginem anticum producto non divisum. Carapax sæpius late transversus, interdum angustus.

1. CANCRINÆ.—Antennæ internæ plus minusve longitudinales. Frons interorbitalis perangustus. Digiti acuminati.

G. 1. CANCER,\* *Leach*.—Pars antennæ externæ mobilis hiatu orbitæ omnino exclusa. Carapax latissimus.

G. 2. PIRIMELA, *Leach*.—Pars antennæ externæ mobilis hiatu orbitæ non exclusa. Carapax perangustus.

2. XANTHINÆ.—Antennæ internæ plus minusve transversæ. Antennæ externæ basi firmè infixæ, parte mobili hiatu orbitæ non exclusâ. Frons interorbitalis latior. Digiti acuminati.

1. *Regio carapacis postica convexa. Orbita hiatu externo non interrupta.*

G. 1. ATERGATIS, *De Haan*.†—Margo antero-lateralis postero-laterali longior. Pedes 8 postici compressi, cristati.

G. 2. CARPILIUS, *Leach, De Haan*.—Margo antero-lateralis postero-laterali longior. Frons sæpissime bene 4-lobatus. Ramus maxillipedis 1mi internus lobato-furcatus. Pedes 8 postici nudi, subcylindrici, non cristati.

G. 3. LIOMERA, *Dana*.‡—Frons leviter 2-lobatus aut rectiusculus. Margo antero-lateralis postero-laterali non brevior. Ramus maxillipedis 1mi internus non lobatus. Pedes 8 postici nudi, subcylindrici, non cristati.

G. 4. LIAGORA, *De Haan*.§—Margo antero-lateralis postero-laterali brevior. Frons leviter 2-lobatus aut rectiusculus. Pedes nudi, tarsis exceptis. Ramus maxillipedis 1mi internus non lobatus.

\* *Platycarcinus*, Milne Edwards, Crust. i, 412.

† Faun. Japon. 17.—*Cancer* of Edwards, Crust. i, 372; and *Platypodia* of Bell, Zool. Trans. i, 335, 1835.

‡ Includes *Carpilius cinctimanus* of White, Crust. Voy. Samarang, 37, pl. 7, f. 4. The lobato-furcate form of the inner branch of the 1st pair of maxillipeds in *Carpilius maculatus* and the allied, is so peculiar, as shown by De Haan, that it must be admitted as a generic distinction. The true *Carpilii* have a strongly 4-lobed margin to the front, though the front is sometimes so bent downward that the lobes are not seen in a vertical view, though distinct in a front view.

§ Faun. Japon. 19.

2. *Regio carapacis postica transversim non convexa.*

a. Carapax versus margines frontalem antero-lateralemque curvatim declivis.

G. 5. *ACTÆA*, *De Haan*,\* *Dana*.—Margo postero-lateralis brevis, sæpius concavus. Orbita hiatu externo non interrupta.

b. Carapax versus margines frontalem antero-lateralemque parce declivis.

α *Orbita hiatu externo non interrupta.*

G. 6. *XANTHO*, *Leach*.—Margo antero-lateralis postero-laterali longior. Articulus antennæ externæ 1mus oblongus, frontem bene attingens, articulo sequente e apicis medio articuli 1mi orto.

G. 7. *EUXANTHUS*, *Dana*.—*Xantho* formâ similis: articulus antennæ externæ 1mus hiatum ad summum implens, articulo sequente e latere excavato apicis orto.

G. 8. *PARAXANTHUS*, *Lucas*.†—*Xantho* formâ similis: articulus antennæ externæ 1mus abbreviatus processum frontis oblongum attingens tantum. Abdomen maris 5-articulatum.

G. 9. *MENIPPE*, *De Haan*.‡—Margo antero-lateralis postero-laterali brevior. Articulus antennæ externæ brevis nec frontem nec frontis processum attingens. Abdomen maris 7-articulatum.

β *Orbita hiatu externo interrupta, infra integra.*

G. 10. *PANOPÆUS*, *Edwards*.—Margo antero-lateralis tenuis, postero-laterali sæpius brevior, ad orbitæ angulum externum directus.

γ *Orbita infra extusque tribus dentibus instructa, uno externo, duobus inferioribus.*

G. 11. *MEDÆUS*, *Dana*.—Angustus, paulo transversus, [nudus,] fronte sat brevi. Margo antero-lateralis sub orbitâ productus. Abdomen maris 5-articulatum, segmento ultimo brevi. Pedes antichi crassi, iis *Xanthi* similes.

G. 12. *HALIMEDE*, *De Haan*.§—Angustus, parce transversus, [villosus,] fronte brevior. Abdomen maris 7-articulatum, segmento ultimo valde elongato. Pedes antichi crassi, iis *Xanthi* similes.—An *Pilumnis* propinquior?

3. *CHLORODINÆ*.—Antennæ internæ transversæ. Antennæ externæ basi firmè infixæ, parte mobili hiatu orbitæ raro exclusâ. Frons interorbitalis latior. Digi instar cochlearis excavati.—Quoad genera, *Xanthinæ* et *Chlorodinæ* ferme parallelæ.

\* Faun. Japon. 18.

† Crust. D'Orb. S. Am., 18. We see no sufficient character for sustaining this genus, excepting the short basal joint of the outer antennæ.

‡ Faun. Jap. 21.—*Pseudocarcinus* of Edwards, Crust. i, 407.—*Pelæus*, Eydoux and Souleyet, Voy. de la Bonite. *Pelæus armatus* is the name given to a Sandwich Island species figured in the plates of the Bonite, but not yet described.

§ Faun. Japon. 35. Our *Medæus* has nearly the outline of *Halimede*, but is naked and very deeply areolate. It is a *Xantho* in nearly all its characters, though narrow, and having the orbit below deeply divided. On this account, I have introduced *Halimede*, which resembles our genus in form, in this place, not having had an opportunity to study its characters from specimens.

1. *Hiatus orbitæ internus processu basis antennæ externæ occupatus, articulum 2dum occludens.*

G. 1. *ETISUS, Leach.\**

2. *Hiatus orbitæ internus basi antennæ externæ occupatus, articulo 2do non occluso.*

1. Regio carapacis postica convexa.

G. 2. *CARPILODES, Dana.*—Carapax latus, nudus, margine antero-laterali crassè rotundato. Pedes 8 postici subcylindrici, nudi. *Liomeræ* habitu similis.

G. 3. *ZOZYMUS, Leach.†*—Carapax mediocriter latus, margine antero-laterali tenui. Pedes 8 postici valde compressi, cristati aut subcristati. *Atergati* habitu similis.

2. Regio carapacis postica fere plana.

a. *Carapax versus margines frontalem antero-lateralemque curvatim declivis.*

G. 4. *ACTÆODES, Dana.‡*—Pedes 8 postici non cristati. *Actææ* aspectu similis. Articulus maxillipedis externi 3tius apicem vix excavatus.

G. 5. *DAÏRA, De Haan.§*—Pedes 8 postici non cristati. Articulus maxillipedis externi 3tius apice valde emarginatus.

b. *Carapax versus margines frontalem antero-lateralemque vix declivis.*

G. 6. *CHLORODIUS, Leach.||*—Carapax plus minusve transversus. Articulus antennæ externæ 1mus oblongus frontem bene attingens. Articulus maxillipedis externi 3tius subrectangulatus. *Xantho* aspectu similis.

G. 7. *PILODIUS, Dana.*—Carapax paulo transversus. Articulus antennæ externæ abbreviatus, processum frontis oblongum attingens tantum. *Paraxantho* aspectu similis.

G. 8. *CYCLODIUS, Dana.*—Carapax parce transversus. Articulus antennæ externæ oblongus frontem bene attingens. Articulus maxillipedis externi 3tius triangulatus, latere interiore brevissimo.

G. 9. *CYMO, De Haan.¶*—Carapax non transversus, fere orbiculatus, disciformis. Antennis *Chlorodio* affinis.

\* Part of the species (the typical) have the arm long projecting, and a broad form somewhat like *Cancer*. Another part, quite different in habit, have a short arm as in *Actæodes*, and graduate into *Actæodes*. The latter may well be named *ETISODES*.

† *Zozymus* of Leach and *Ægle* of De Haan have the same species as type, the *Z. æneus*, and De Haan makes the cristate character of the 8 posterior legs a generic character. We follow him in this respect, though adding the character dependent on the spoon-shape of the fingers, as done by Leach.

‡ Includes *Zozymus tomentosus* and the allied, in which the 8 posterior legs are not cristate. The species are closely like *Actææ* except in the fingers.

§ Faun. Japon. 18; *Lagostoma*, Edwards, Crust. i, 386.

|| *Chlorodius* of De Haan (F. Jap. 13) of subsequent date, is synonymous with *Atelecyclus* of Leach.

¶ Faun. Japon. 22.

4. POLYDECTINÆ.—Antennæ internæ transversæ. Antennæ externæ basi solutæ, liberæ.—An *Pilumnis* propinquior?

G. POLYDECTUS, *Edw.\**—Orbita dentibus tribus infra instructa. Manus elongata, digitis prælongis, attenuatis, uncinatis, cum dentibus tenuiter spinuliformibus sæpe armatis.

FAM. II. ERIPHIDÆ.

Pedibus maxillipedeque Imo *Cancri* affinis. Palatum colliculo usque ad marginem anticum producto utrinque divisum. Carapax sæpius angustus, interdum latus, latitudine ante-medianâ sæpissimè majore, oculis remotis.

1. CETHRINÆ.—Carapax transversus, lateribus valde dilatatus et rotundatus. Antennæ internæ fere longitudinales.

G. 1. CETHRA, *Leach.*

2. OZINÆ.—Carapax plus minusve transversus. Digiti acuminati. Antennæ internæ transversæ. Orbita hiatu interno basi antennæ occupato instructa. Abdomen *maris* 7-articulatum.

1. *Articulus antennæ externæ Imus frontem bene attingens.*

G. 1. GALENE, *De Haan.†*—Carapax transversus, longitudinaliter multo convexus, antice declivis.—An *Potamiæ* propinquior?

G. 2. OZIUS, *Leach.*—Carapax transversus, latus, fere planus.

2. *Articulus antennæ externæ Imus frontem non attingens.*

G. 3. PSEUDOZIUS, *Dana.‡*—Carapax transversus, fere planus, latior, margine antero-laterali brevior.

G. 4. PILUMNUS, *Leach.*—Carapax angustus, parce transversus, sæpius convexus, margine antero-laterali brevior.

G. 5. PILUMNOIDES, *Edw. et Lucas.§*—Carapax angustus, parce transversus, valde convexus, margine antero-laterali longior, bene arcuato, super carapacem postice incurvato.

\* This genus is very peculiar in the hand: both fingers are long styliform and very slender, with incurved apices, and hardly touching except at tips, and when dentate the teeth are delicate spines on the inner margin; moreover, the part of the hand anterior to the fingers is quite short. A species collected by the writer is closely like the *P. cupulifer* in most of its characters. The form of the hand is very unlike anything among other Cancroidea; and Halimede which has been supposed to be near Polydectus, has (like Medæus) the ordinary form, like that in Xantho.

The genus *Iphiculus* of White (*Crust. Voy. Samarang*, 57, pl. 13, f. 5), has the general characters of our Polydectus—the same villous coat, similar fingers, even to the spiniform dentation of the fingers, and other resemblances; and we suspect although a broader species, that his *I. spongiosus* is a true *Polydectus*.

The specimen of the Polydectus, from which a description with a colored drawing was taken by me while it was living, is not now found in our collections, and I have not therefore been able to ascertain the character of the prælabial plate and thus assure myself whether the species are related to the Eriphidæ or not. It is very possible that the true place is after Ozinæ.

† Faun. Japon. 19.

‡ Near Pseudocarcinus, from which it differs in the ridge on the prælabial plate, as well as in its flatter form.

§ Crust. D'Orb. S. Am., 21.

G. 6. MELIA, *Latr.*—Carapax subquadratus, fere planus, fronte lato, oculis versus angulos insitis. Pedes toti graciles. Basis antennæ externæ cylindricus.

An genus sequens hîc pertinet?

ACANTHODES, *De Haan.\**—Carapax angustus, *Pilumno* formâ affinis, spinis grandibus anticè armatus. Pedes spinosi.—Species *Acanthodes armatus* Haanii magnitudine portentosus.

3. ACTUMNINÆ.—Orbitâ *Ozinis* similis. Digiti instar cochlearis excavati.

G. ACTUMNUS, *Dana.†*—Carapax paulo transversus, valde convexus, antice lateraliterque curvatim declivis. Articulus antennæ externæ Imus processum frontis attingens tantum.

4. ERIPHINÆ.—Orbita infra bene clausa, hiatu interno carens, articulo antennæ e orbitâ omnino excluso. Carapax sive paulo transversus sive subquadratus.

G. 1. RUPPELLIA, *Edw.*—Carapax latior. Antennæ pars mobilis externæ orbitâ paululum remota. Articulus maxillipedis externi 3tius paulo transversus.

G. 2. ERIPHIA, *Latr.*—Carapax angustus, convexus, fronte sæpius valde declivi. Antennæ pars mobilis externæ orbitâ longe remota. Articulus maxillipedis externi 3tius paulo transversus.

G. 3. DOMÆCIUS, *Souleyet.‡*—*Ruppellia* formâ antennisque externis affinis. Articulus maxillipedis externi 3tius valde transversus, brevissimus, epistomam tegens.

G. 4. TRAPEZIA, *Latr.*—Carapax subquadratus, planus, glaber, fronte horizontalis, leviter 6-8-dentatus, aut sinuosus, lateribus longitudinalis. Tarsi non unguiculati, minute spinulosi. Brachium ultra carapacem longe exsertum.

G. 5. TETRALIA, *Dana.§*—Carapax aspectu *Trapeziæ* affinis. Frons horizontalis, rectiusculus, subtilissimè denticulatus. Tarsi breviter unguiculati. Brachium ultra carapacem paulo exsertum.

G. 6. QUADRELLA, *Dana.*—Carapax subquadratus, paulo convexus, lævis, fronte horizontalis, 6-spinoso-dentatus. Tarsi unguiculati. Brachium ultra carapacem longe exsertum.

### FAM. III. PORTUNIDÆ.

Pedes postici natatorii, tarso laminato. Ramus maxillipedis Imi internus lobo interno instructus. Palatum colliculo utrinque sæpissime divisum. Corpus sive latum sive angustum, oculis sat brevibus.

\* Faun. Japon. 20.

† Very near *Actæa*, but the prælabial plate or palate is strongly divided by a ridge either side. Besides, the form is much narrower and more convex than in the *Actææ*, being subglobose above.

‡ Voy. of the Bonite; also, "Voy. au Pole Sud," under D'Urville, in the *Astrolabe* and *Zélée*, plate 6, figs. 3-7, by Hombron and Jacquinet.

§ This Journal, [2] xi, 223.



1. LUPINÆ.—Sutura sterni mediana segmenta tria intersecans. Palati colliculi prominentes.

1. *Pars antennæ externæ mobilis hiatus orbitæ non occlusa, orbitâ jacendo aptata.*

G. 1. SCYLLA, *De Haan*.\*—Valde latus et crassus, marginibus anterioribus simul sumtis bene arcuatus, antero-laterali longiore quam postero-lateralis. Pedes antici breviores, crassissimi, manu valde tumidâ, non angulatâ vel prismaticâ.

G. 2. LUPA, *Leach*.†—Valde latus, marginibus anterioribus totis simul sumtis bene arcuatus. Manus elongatè trigona aut prismatica, costata.

G. 3. AMPHITRITE, *De Haan*,‡ *Dana*.—Angustior. Margines frontalis antero-lateralisque angulo convenientes, antero-laterali raro brevior quam postero-lateralis. Manus elongata, prismatica. Basis antennæ externæ crassus, hiatus orbitæ parce angustior.

G. 4. CARUPA, *Dana*.—Transversus. Margines frontalis antero-lateralisque angulo convenientes, fronte recto, emarginato. Basis antennæ externæ subcylindricus, hiatus orbitæ multo angustior.

2. *Pars antennæ externæ mobilis hiatus orbitæ omnino per basis processum occlusa, orbitâ plus minusve remota.*

G. 5. THALAMITA, *Latr*.—Latus. Frons dimidio latitudinis carapacis longior; margo antero-lateralis longitudinalis. Articulus antennæ externæ 1mus prælongus, 2dus orbitâ remotissimus. Pedes antici longi, manu elongatâ.

G. 6. CHARYBDIS, *De Haan*, *Dana*.§—Angustior. Frons dimidio latitudinis carapacis brevior; margo antero-lateralis obliquus. Articulus antennæ externæ 1mus paulo oblongus, 2dus orbitâ paulo remotus. Pedes antici longi, manu elongatâ.

G. 7. LISSOCARCINUS, *White*.||—Suborbiculatus, lævis, subporcellanus. Articulus antennæ externæ 1mus brevis, fere longitudinalis, articulo sequente orbitâ parce remoto. Pedes nudi; antici breves, brachio ultra carapacem vix saliente, manu perbrevis.

2. ARENÆINÆ.—Sutura sterni mediana segmenta tria intersecans. Palatum colliculo utrinque non divisum. Ramus maxillipedis 1mi internus ad apicem late transversim triangulatus lineamque medianam fere attingens.

\* Faun. Japon. 11.

† *Neptunus*, *Pontus* and *Achelous* of De Haan, (Faun. Japon., 8, 9,) the distinctions between which genera appear not to be sustained.

‡ Faun. Japon. 8. Includes, as here adopted, the *Lupa* of De Haan, which division he restricts to the *Lupa forceps* (Edw. Crust. i, 456). The *Lupocyclus* of Adams and White, (Crust. Voy. Samarang, 47, pl. 12, f. 4,) appears to be identical with *Amphitrite*.

§ Fauna Japon. 10. Includes both *Charybdis* and *Oceanus* of De Haan, which divisions shade into one another by imperceptible gradations, and are not distinguished by any important characters. Corresponds to the "Thalamites Hexagonales" of Edwards.

|| Crust. Voy. Samarang, 45. We have taken the generic characters from a species collected by us, in connection with the description by White.

G. ARENÆUS, *Dana*.—*Lupæ* affinis. Carapax valde latus, antice arcuatus. Pars antennæ externæ mobilis hiatu orbitæ insita. Manus prismatica.\*

3. PORTUNINÆ.—Sutura sterni mediana segmenta duo intersecans. Colliculi palati sæpius obsoleti.

G. PORTUNUS, *Fabr.*—Angustus, margine antero-laterali brevior quam postero-lateralis.

#### FAM. IV. PLATYONYCHIDÆ.

Pedes postici natatorii, tarso laminato. Ramus maxillipedis 1mi internus lobo interno non instructus. Palatum colliculo utrinque non divisum. Corpus angustum.

G. 1. CARCINUS, *Leach*.†—Pedes postici male natatorii, tarso angustè lanceolato. Carapax parce transversus.

G. 2. PORTUMNUS, *Leach*.—Pedes 5ti natatorii tantum, tarso lanceolato, acuto. Carapax non latior quam longior.

G. 3. PLATYONYCHUS, *Latr.*‡—Pedes 5ti natatorii tantum, tarso lato, elliptico. Carapax latior quam longior.

G. 4. POLYBIUS, *Leach*.—Pedes 2di, 3tii, 4ti, 5ti toti natatorii, tarsi late lanceolatis.

#### FAM. V. PODOPHTHALMIDÆ.

Pedes postici natatorii, tarso laminato. Ramus maxillipedis 1mi internus lobo interno instructus. Corpus latum, antice valde transversum, orbitis oculisque longissimis.

G. PODOPHTHALMUS, *Lamarck*.

### LEGIO II. TELPHUSINEA, VEL CANCROIDEA GRAPSIDICA.

#### FAM. I. TELPHUSIDÆ.

Carapax subquadratus aut orbiculato-quadratus. Palatum colliculo utrinque sæpius divisum. [Species Eriphiis paulo affines.]

G. 1. TELPHUSA, *Latr.*—Articulus maxillipedis externi 3tius subquadratus, 2dus oblongus. Carapax subquadratus.

G. 2. TRICHODACTYLUS, *Latr.*—Articulus maxillipedis externi 3tius subtriangulatus, 2dus oblongus.

\* This genus is instituted for the *Lupa cribraria*, which differs from the other *Lupas* in the characters stated. This species occurs in the shallow waters off a sand beach.

† *Xaiva* of M'Leay (*Smith's Illust. Zool. S. Africa*) is described as near *Carcinus*. The narrow form is the same; the antero-lateral margin 1-dentate and shorter than the postero-lateral; the tarsus of the 5th pair of legs wider than in *Carcinus*; the 3d joint of the outer maxillipeds subquadrate and carinate at base, with the inner margin emarginated for the next joint just above its middle, a form which occurs in *Platyonychus*.

‡ *Anisopus* of De Haan, *Faun. Japon.*

G. 3. VALDIVIA, *White*.\*—Articulus maxillipedis externi 2dus brevior quam latior, 3tius longior quam latior.

G. 4. POTAMIA, *Latr.*—Articulus maxillipedis externi 3tius apice subtriangulatus anguloque apicali 4tum gerens. Palatum colliculo utrinque bene partitum.

An hîc pertinet genus *Galene* Haanii?†

### LEGIO III. CYCLINEA, VEL CANCROIDEA CORYSTIDICA.

Pedibus maxillipedeque Imo CANCRIDIS affinis. Palatum colliculo utrinque non divisum. Antennæ externæ obsoletæ. Carapax angustus, suborbiculatus. Branchiæ numero septem.

G. 1. ACANTHOCYCLUS, *Lucas*.‡—Carapax orbiculatus. Pedes longitudine mediocres, tarso uncinato.

G. 2. CORYSTOIDES, *Lucas*.§—Carapax oblongus, ellipticus. Pedes longiores, tarso styliiformi, longo. Antennæ internæ fossis carentes.

2. *Additional note to the Remarks on the Classification of the Maiioidea*; by JAMES D. DANA.||—The following genus by Krøyer¶ should be added to the synopsis given in the last number of this Journal. It appears to belong to the subfamily Inachinæ, and is classed near *Inachus* by its author. The species on which the genus is founded is the *Cancer phalangium* of Fabricius, Faun. Groenl. n. 214, and his *Cancer Opilio* in Det danske Vid. Selsk. Skr. nye Saml. iii, 180. It is from Greenland. Krøyer gives the following generic characters:—

G. CHIONÆCETES.—Cephalothorax depressus, subtriangularis, eadem fere longitudine ac latitudine, antice truncatus, fronte lata rostroque horizontali, bifido, brevissimo. Pedes 2di paris duplicem cephalothoracis longitudinem superantes, triplicem vero non attingentes; pedes 1mi paris 2dis tertiisque breviores, cephalothorace vero longiores (interdum duplo); chelis acuminatis, falcatis; pedes 2di, 3tii, 4tique paris compressi, 5ti paris subcylindrici. 3tius pedum maxillarium externorum articulus fere quadratus eadem pæne longitudine ac latitudine; 4tus articulus angulo interno tertii adnexus; oculi crassi, in orbitam retractiles; pars antennarum externarum terminalis mobilis brevissima. Abdomen sex constat articulis.—The name Chionæcetes is from χιών, *nix*, and οικήτης, *incola*.

\* Ann. and Mag. Nat. Hist., xx, (1847,) 206.

† See page 127, where it is placed with the Ozinæ. The branchial cavity is very large, as in *Potamia*, and contains outside of the branchiæ a large open space. The shell of a specimen from the Sandwich Ids. closely like the *G. natalensis* of Krauss, has the appearance of a fresh-water or land species, the texture being less calcareous than in most marine species. The specimen was not collected by the writer, and its exact habitat is not known. Krauss's species occurred under stones on the shores at the mouth of a river in South Africa.

‡ Crust. D'Orbign. S. Am. 29, pl. 15,

§ Crust. D'Orbign. S. Am. 31, pl. 16.

|| Last volume of this Journal, p. 425.

¶ Tidskrift, ii, 249.